Space Weather Research Network Architecture

There are two groups of mission spacecraft: (a) solar dynamics elements (SDO/ Sentinels) that observe the Sun and track disturbances originating there and (b) geospace dynamics elements (RBM/IM) consisting of constellations of small satellites located in key regions around the Earth to measure downstream effects.

- Solar Dynamics Observatory (SDO) will observe the Sun's dynamics and help to understand the nature and source of variations from the stellar core to the turbulent solar atmosphere.
- Sentinels will provide a global view of the heliosphere and describe the transition and evolution of eruptions and flares from the Sun to Earth.
- Radiation Belt Mappers (RBM) will help to understand the origin and dynamics of the radiation belts and determine the evolution of penetrating radiation during magnetic storms.
- Ionospheric Mappers (IM) will gather knowledge of how the ionosphere and thermosphere behave as a system, linking solar energy with the Earth's atmosphere.

LWS Missions for the Next Solar Maximum